

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the present amendment and following discussion is respectfully requested.

Claims 1-7, 9-12, and 14-26 are pending. Claims 1, 4, and 20 have been presently amended. Claims 24-26 have been added. No new matter was added.

In the outstanding Office Action, Claim 4 was objected to as being a duplicate of Claim 1. Claims 1-2, 4-7, 11, 14-15, 17-20, and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takekuma (U.S. Pat. No. 6,377,329) in view of Kirkpatrick et al, (U.S. Pat. No. 6,238,161, herein "Kirkpatrick"), and Olbrich et al (U.S. Pat. No. 5,083,364, herein "Olbrich"). Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Takekuma in view of Kirkpatrick and Olbrich and in further view of Masayki et al (JP 10-012528, herein "Masayki"), wherein a machine translation was used. Claims 9-10 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takekuma in view of Kirkpatrick and Olbrich and in further view of Cakmakci (U.S. Pat. No. 4,836,968). Claims 12, 16, and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takekuma in view of Kirkpatrick and Olbrich and in further view of Slocum et al (U.S. Pat. No. 5,733,024, herein "Slocum").

Applicants acknowledge with appreciation the courtesy of Examiner Ford to interview this application with Applicants' representative on October 8, 2010. During which time, the issues in the outstanding Office Action were discusses as substantially summarized below.

During the interview, it was pointed out that Claim 1, as previously presented recited, *inter alia*, a substrate processing apparatus that includes:

a transfer block comprising second transfer means provided adjacent to the carrier block and for transferring the substrate along a linear transfer path, said transfer block including at least one utility unit including a plurality of connection ends for supplying *utilities external to the at least one utility unit*;

a plurality of process blocks arranged along said transfer path, ***each process block freely attaching to the transfer block*** by pressing against the transfer block, ***each process block freely detaching from the transfer block*** by pulling away from the transfer block, ***each process block including at least one connection end to connect to a connection end of the at least one utility unit by pressing against the connection end of the at least one utility unit to receive utilities from the transfer block;***

each process block including a chemical unit storing tanks of chemical solutions, a utility unit having connection ends configured to supply utilities, a liquid process unit having a coating unit configured to apply a resist solution to the substrate and a developing unit configured to perform developing processing on the substrate after exposure to light, a heating unit configured to heat the substrate, third transfer means for transferring the substrate between the units, and a second delivery stage configured to perform delivery of the substrate between said second transfer means and said third transfer means. [Emphasis added.]

Applicants describe at pages 5 and 6 of the specification that:

In such a substrate processing apparatus, the process block is provided to be ***freely attachable/detachable*** with respect to the main body of the apparatus, and a series of processing are performed on the substrate in units of process blocks. Thus, in the case where it is desired to considerably increase/decrease the quantity of the substrates to be processed, it is possible to address the situation by attaching/detaching the process block to/from the main body of the apparatus. Further, since the processing is completed in each process block, it is readily possible to address the change in type of items by changing the process block. [Emphasis added.]

In such a manner, the providing of additional capabilities to an existing process line is facilitated with minimal interruption of existing utility and service lines.

Indeed, Applicants were the ones to recognize the problems associated with throughput mismatch between the changing light exposure device throughput demand and the throughput of coating and developing units and how this mismatch effected excess initial investment and unnecessary investment at the time of shipping. See specification, pages 2-4. Moreover, Applicants were the ones (in view of this problem) to devise the claimed invention where each attachable/detachable process block included the elements set forth in the claims.

As noted during the interview, the recent guidelines regarding *KSR* published in Federal Register vol. 75, No. 169 (September 1, 2010) in Example 4.1 indicates that:

Even where a general method that could have been applied to make the claimed product was known and within the level of skill of the ordinary artisan, the claim may nevertheless be nonobvious if the problem which had suggested use of the method had been previously unknown.

* * *

The Federal Circuit affirmed the district court's decision that the claimed invention was not obvious. Even though subcoatings for enteric drug formulation were known, and there was no evidence of undue technical hurdles or lack of a reasonable expectation of success, the formulation was nevertheless not obvious because the flaws in the prior art formulation that had prompted the modification had not been recognized. Thus there would have been no reason to modify the initial formulation, even though the modification could have been done. Moreover, a person of skill in the art likely would have chosen a different modification even if he or she had recognized the problem.

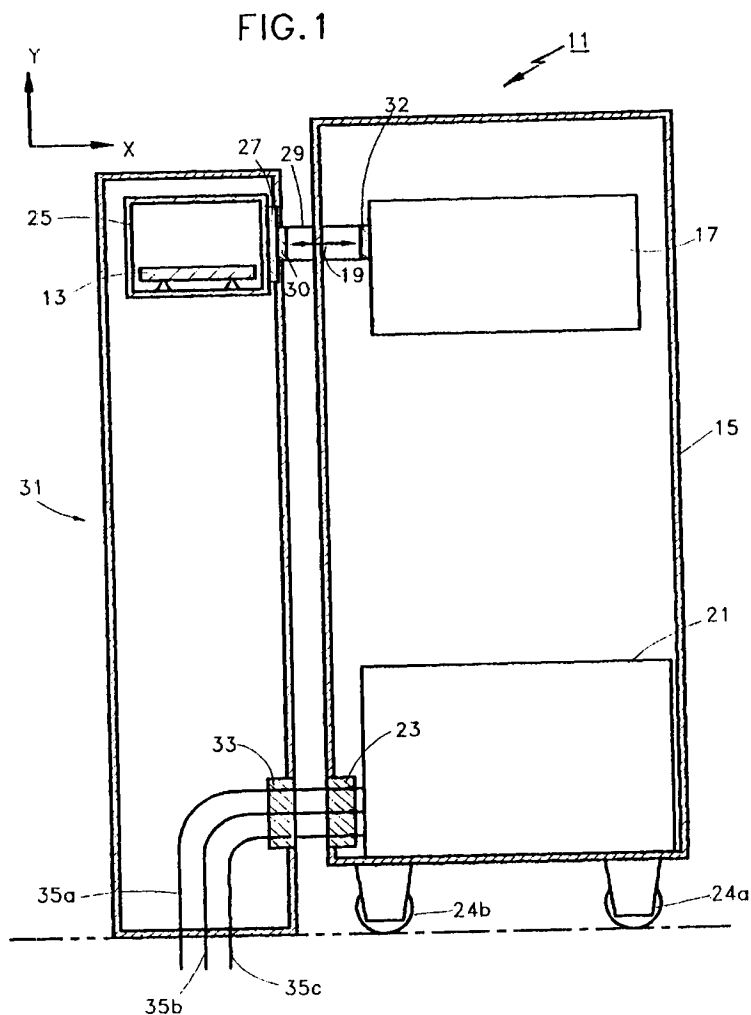
Under the Federal Circuit guidelines, there would have been no reason to modify Takekuma to provide utilities to the process blocks in the manner claimed. Furthermore, without knowledge of the problem being solved, a person of skill in the art likely would have either stayed with the utility connections of Takekuma or would have chosen a different modification to provide supplies to the modules, not necessarily the way set forth in the claimed invention -- i.e., at least one connection end to connect to a connection end of the at least one utility unit by pressing against the connection end of the at least one utility unit to receive utilities from the transfer block and the at least one utility unit having freely attachable/detachable connections --.

As further noted during the interview, the Office Action states on page 3:

Takekuma does not dispose a utility unit within the transfer block. However, such configurations are known in the art. Kirkpatrick, for instance, describes a substrate processing system having a plurality of process modules (11) arranged alongside linear transfer chamber (13) (Fig. 3). Further, utility connection ports (33), which correspond with connection ports (23) formed at the base of each process module, are disposed within the transfer block to facilitate the efficient provision of supplies to the modules from a site external to the transfer block (4, 21-28; Fig. 1). In light of this teaching, it would have

been obvious to the skilled artisan to dispose utility units within Takekuma's transfer block to achieve the predictable result of providing utilities to the process blocks. [Emphasis added.]

As further noted during the interview, it appears from Figure 1 of Kirkpatrick (reproduced below) that facilities port 33 is a bulk head conduit connection attached to the housing of wafer transfer subsystem 31 and module 11.



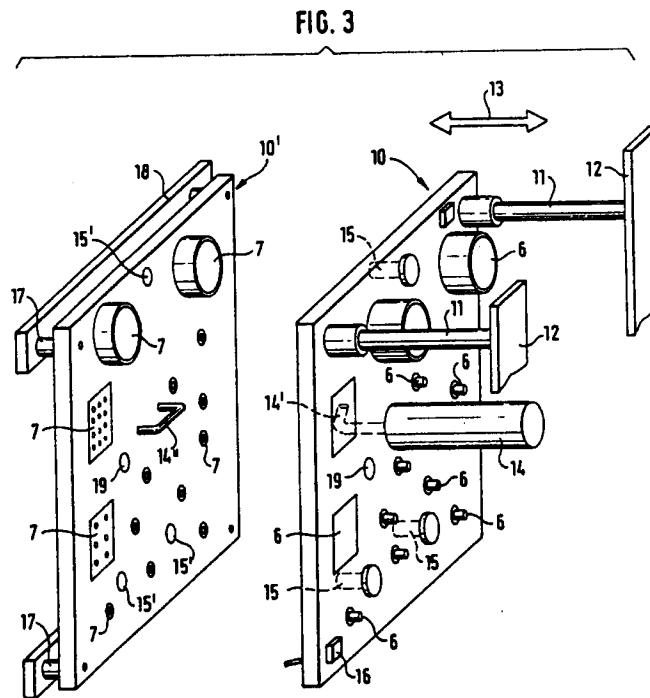
Thus, Kirkpatrick does not disclose or suggest at least one utility unit having freely attachable/detachable connections, as presently clarified.

During the interview, the Examiner pointed to Olbrich and its teaching of interchangeability of the process blocks shown there. Olbrich state at col. 1, lines 27-45:

It is an object of the present invention to avoid these disadvantages by improving a manufacturing system of the type referred to above in such a way that changing the process sequence, and in particular exchanging various process stations for one another, can be done simply, in a time-saving manner, without any substantial interruption in the course of manufacture.

To attain this object, the invention provides that all the inflow and outflow lines are carried in parallel in a media bus to process modules disposed in interchangeable process stations; that coupling boxes are disposed on the media bus at the grid spacing of the process modules; and that one countercoupling is provided at each of the readily interchangeable process modules, in accordance with the coupling boxes, and that by joining the coupling box and the countercoupling, the connections of the inflow and outflow lines are made and by separating the coupling box and the countercoupling these connections are broken.

Meanwhile, Olbrich show in Figure 3 (reproduced below) a power and gas cooling coupling unit, where all utilities are centrally coupled therethrough. Olbrich shows in Figure 4 (reproduced below) the securing of the utility connections with bolts.



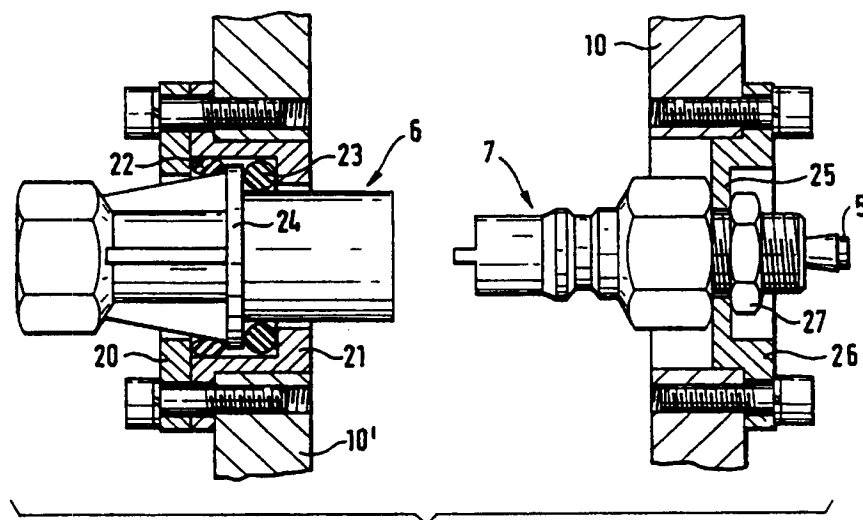


FIG. 4

Thus, Olbrich does not disclose or suggest at least one utility unit having freely attachable/detachable connections, as presently clarified.

Hence, the combination of Takekuma, Kirkpatrick, and Olbrich does not meet all the claimed elements. Accordingly, Claims 1-7, 9-12, and 14-26 should be allowed and passed to allowance.

Furthermore, M.P.E.P. § 2145 X. D. 2. indicates that it is improper to combine references where references teach away from their combination. Here, Kirkpatrick teach the hardwired connection of services through conduit connections, while Olbrich teach integrating all the services through a coupling box. Hence, a person of ordinary skill in the art would be lead in one way with Kirkpatrick and lead another opposite way with Olbrich. Accordingly, the combination of Kirkpatrick and Olbrich is improper for this reason.

Viewed differently, the hardwired service connections of Kirkpatrick (as noted above) **teach away** from the claimed detachable process units. The Court in *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994) stated that:

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or ***would be led in a direction divergent from the path that was taken by the applicant.*** The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. [Emphasis added.]

Hence, the hardwired service connections of Kirkpatrick lead one in a direction divergent from the path that was taken by the applicant and would be unlikely to be productive of the result sought by the applicant (detachability/attachability of the process units).

Accordingly, the combination of Kirkpatrick and Olbrich is improper for this additional reason, and Claims 1-7, 9-12, and 14-26 should be allowed and passed to allowance.

Furthermore, as noted during the interview, the Office Action states on page 3:

It is also the Office's position that each process block ***must inherently*** include a chemical "unit" to store and provide the liquid to the coating and developing modules.

Regarding the inherency position advanced by the Office, M.P.E.P. § 2112 states that, to establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be recognized by persons of ordinary skill. M.P.E.P. § 2112 further states that inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *Ex parte Skinner*, 2 USPQ2d 1788, 1789 (BPAI 1986) explained that:

The examiner must provide some evidence or scientific reasoning to establish the reasonableness of the examiner's belief that the functional

limitation is an inherent characteristic of the prior art” before the burden is shifted to the applicant to disprove the inherency.

Yet, there has been no evidence or scientific reasoning to establish the reasonableness that each process block includes a chemical “unit” to store and provide the liquid to the coating and developing modules, or that the coating units 3 in the first module of Takekuma have tanks of chemical solutions (similar to what is claimed). One possibility is that the liquids for the coating units 3 of Takekuma are supplied from tanks outside the coating units 3.

Thus, the claimed chemical unit storing tanks are not in the art of record.

Hence, for this additional reason, the combination of Takekuma, Kirkpatrick, and Olbrich does not meet all the claimed elements, and Claims 1-7, 9-12, and 14-26 should be allowed and passed to allowance.

M.P.E.P. § 2142.02 indicates that:

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.

Thus, in consideration of the whole of the claimed invention, the examiner will recognize that the combination of – – at least 1) each process block freely attaching to the transfer block by pressing against the transfer block, 2) each process block freely detaching from the transfer block by pulling away from the transfer block, 3) each process block including at least one connection end to connect to a connection end of the at least one utility unit by pressing against the connection end of the at least one utility unit to receive utilities from the transfer block, and 4) the at least one utility unit having freely attachable/detachable connections – – provides a unique structure not shown in the art and providing for a solution of a problem not addressed in the art.

For all of these reasons, Claims 1-7, 9-12, and 14-26 should be allowed and passed to allowance.

Moreover, even if Olbrich properly combinable with Kirkpatrick, the combination would still not teach the features set forth in the newly added claims:

the transfer block including a guide rail extending underneath the process block; and
the process block moveable along a path of the guide rail to connect the at least one connection end of the process block to the connection end of the at least one utility unit of the transfer block.

These features are shown in Applicants' Figures 9 and 10 and discussed in the specification on page 14.

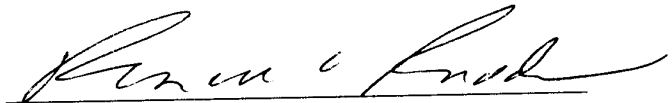
These features set forth in the newly added claims are not in the applied art.

Conclusion: For all or any of the reasons discussed above, Claims 1-7, 9-12, and 14-26 are non-obvious and should be passed to allowance.

No further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance for Claims 1-7, 9-12, and 14-26 is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Steven P. Weihrouch
Attorney of Record
Registration No. 32,829

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/09)
4392328_1.DOC

Ronald A. Rudder, Ph. D.
Registration No. 45,618